KOSTYUK, P.G.; SOROKINA, Z.A.; SHAPOVALOV, A.I.

Intracellular recording of muscle fiber potentials; rhythmic activity. Biofizika, 4 no.3:310-319 '59 (MIRA 12:7)

1. Institut fiziologii zhivotnykh pri Kiyevskom gosuniversitete.
(MUSCLES, physiol.
rhythmicity of musc. fiber potential, intracellular recording (Rus))

SHAPOVALOV, A.I.

Transmission of excitation in the spinal cord during curarization.
Fiziol.zhur. 45 no.8:952-958 Ag '59. (MIRA 12:11)

1. From the Department of Pharmacology, I.P.Pavlov Medical Institute, Leningrad.
(CURARE, pharmacology)
(SPINAL CORD, pharmacology)

IVANOVA, Z.N.; KOVALEV, G.V.; SPALVA, Ye.A.; KHAUNINA, R.A.; SHAPOVALOV, A.I.

Effect of a lytic cocktail on various phenomena of nervous activity; experimental study. Vest.khir. 83 no.10:101-108 O '59.
(MIRA 13:2)

1. Iz kafedry farmakologii (ispolnyayushchiy obyazannosti zaveduyushchego - dotsent M.I. Pal'chevskaya) 1-go Leningradskogo meditsinskogo instituta im. I.P. Pavlova. Adres avtorov: Leningrad, ul. L. Tolstogo, d.6/8, 1-y Meditsinskiy institut, kafedra farmakologii.
(HIBERNATION, ARTIFICIAL pharmacol.)
(CENTRAL NERVOUS SYSTEM pharmacol.)

SHAPOVALOV, A. I.; LAPITSKIY, A. I.; TISHCHENKO, M. I. (Leningrad)

Elektricheskiye razryady odinochnykh neyronov retikulyarnoy formatsii mozgovogo stvola.

report submitted for the First Moscow Conference on Reticular Formation, Moscow, 22-26 March 1960.

SHAPOVALOV, A.I.

Two-barrel microelectrodes for intracellular leads of bio-potentials. Biofizika 5 no.1:79-80 '60. (MIRA 13:6)

1. 1-y Meditsinskiy institut imeni I.P. Pavlova, Leningrad.
(ELECTROPHYSIOLOGY equip. & supply)

SHAPOVALOV, A.I.

Effect of temperature on rapid and slow potentials of rhythmically active muscle fibers in intracellular leads. Biofizika 5 no.3:270-278 '60. (MIRA 13:7)

1. Pervyy Meditsinskiy institut, Leningrad.
(MUSCLE) (TEMPERATURE--PHYSIOLOGICAL EFFECT)
(ELECTROPHYSIOLOGY)

SHAPOVALOV, A.I.

Multiple discharges of the striated muscle fiber. TSitologiia 2 no.6:651-655 N-D '60. (MIRA 13:12)

1. Kafedra farmakologii I Leningradskogo meditsinskogo instituta.
(ELECTROPHYSIOLOGY) (MUSCLE)

KOSTYUK, P.G.; SHAPOVALOV, A.I.

Relationship between electric polarization and rhythmic activity in striated muscle fibers. Biofizika 5 no. 5:586-594 '60. (MIRA 13:10)

1. Institut fiziologii imeni A.A. Bogomol'tsa AN USSR, Kiyev.
(MUSCLE) (ELECTROPHYSIOLOGY)

SHAPOVALOV, A.I.

Postactivation facilitation in the superior cervical sympathetic ganglion of cats. Fiziol.zhur. 46 no.2:185-193 F '60. (MIRA 14:5)

1. From the Department of Pharmacology, I.P.Pavlov 1st.Medical Institute, Leningrad.
(NERVOUS SYSTEM, SYMPATHETIC)

SHAPOVALOV, A.I.

Facilitation and depression of neuromuscular transmission during rhythmical stimulation the process of intracellular recording. Fiziol. zhur. SSSR 46 no. 9:1112-1119 S '60. (MIRA 13:10)

1. From the Pharmacology Chair of Pavlov Medical Institute, Leningrad.
(NERVES) (MUSCLES) (ELECTROPHYSIOLOGY)

SHAPOVALOV, A.I.

Study of the mechanism of rhythmic activity in muscle fiber by means of intracellular micro-electrodes. Biul. eksp. biol. i med. 49 no. 6:3-7 Je '60. (MIRA 13:8)

1. Iz kafedry farmakologii (zav. - prof. A.V. Val'dman) I Leningradskogo meditsinskogo instituta im. I.P. Pavlova. Predstavlena deystv. chlenom AMN SSSR, V.V. Zakusovym.
(MUSCLE) (ELECTROPHYSIOLOGY)

KOSTYUK, P.G.; SHAPOVALOV, A.I.

Features of the responses of various neurons of the spinal cord to direct stimulation. Biul. eksp.biol.i med. 50 no.9:8-11 S '60. (MIRA 13:11)

1. Iz laboratorii obshchey fiziologii (rukovoditel' - doktor biologicheskikh nauk P.G.Kostyuk) Instituta fiziologii imeni A.A. Bogomol'tsa (dir. - chlen-korrespondent AN USSR A.F. Makarchenko) AN USSR, Kiyev.

(SPINAL CORD)

LAPITSKIY, A.I.; TISHCHENKO, M.I.; SHAPOVALOV, A.I.

Possibilities for the use of alternating-current amplifiers in investigating rapidly changing extra- and intracellular bioelectric potentials. Biofizika 6 no. 1:119-125 '61. (MIRA 14:2)

1. "Spetsial'noye konstruktorsko-tekhnicheskoye byuro Biofizpribor," Leningrad i Pervyy meditsinskiy institut im. I.P. Pavlova, Leningrad.
(ELECTROPHYSIOLOGY) (AMPLIFIERS(ELECTRONICS))

SHAPOVALOV, A.I.

Intracellular leading off of the resting potential and polarization of the muscle fiber by the potentiometric method. Biofizika 6 no. 2:187-190 '61. (MIRA 14:4)

1. 1-y Meditsinskiy institut imeni I.P. Pavlova, Leningrad.
(ELECTROPHYSIOLOGY)

SHAPOVALOV, A.I.

Rhythmic activity of the muscle fiber during polarization and intracellular ion injection. Fiziol. zhur. 47 no.1:89-96 Ja '61. (MIRA 14:3)

1. From the Pavlov 1st Medical Institute, Leningrad.
(MUSCLE—MOTILITY) (ELECTROPHYSIOLOGY)

VAL'DMAN, A.V.; IVANOVA, Z.N.; KOVALEV, G.V.; LEBEDEV, V.P.; SHAPOVALOV, A.I.

Effect of aminazine on the ascending and descending functions of the reticular formation. Fiziol. zhur. 47 no.7:852-862 Jl '61. (MIRA 15:1)

1. From the Department of Pharmacology, I.P.Pavlov Medical Institute, Leningrad.

(CHLORPROMAZINE) (BRAIN—INNERVATION)

SHAPOVALOV, A.I.

Interrelation of spontaneous and induced activity in a single muscle fiber. Fiziol. zhur. 47 no.9:1182-1193 S '61. (MIRA 14:9)

1. From the Department of Pharmacology I.P.Pavlov Medical Institute, Leningrad.

(MUSCLE) (ELECTROPHYSIOLOGY)

SHAPOVALOV, A.I.

Characteristics of neuronal responses of the spinal cord to rhythmic stimulation under conditions of intracellular recording. Dokl. AN SSSR 141 no.5:1267-1270 D '61. (MIRA 14:12)

1. Pervyy Leningradskiy meditsinskiy institut im. I.P. Pavlova. Predstavleno akademikom I.S. Beritashvili.
(SPINAL CORD)
(ELECTROPHYSIOLOGY)

SHAPOVALOV, A.I.

Effect of substances inhibiting neuromuscular transfer on the miniature potentials of the endplate. Tsitologiia 4 no.6: 669-673 N-D'62 (MIRA 17:3)

1. Kafedra farmakologii Leningradskogo meditsinskogo institu-ta.

BARSUKOV, V.N.; TISHCHENKO, M.I.; SHAPOVALOV, A.I.

Direct current amplifier for studies with intracellular microelectrodes. Biofizika 7 no.3:360-366 '62. (MIRA 15:8)

1. Spetsial'noye konstruktorsko-tekhnologicheskoye byuro "Biofizpribor" i 1-y Leningradskiy meditsinskiy institut imeni I.P.Pavlova.

(ELECTROPHYSIOLOGY)

SHAPOVALOV, A.I.

Multichannel intracellular microelectrodes. Fiziol. zhur. 48 no.2: 213-124 F '62. (MIRA 15:2)

1. From the Department of Pharmacology, I.P.Pavlov Medical Institute, Leningrad.
(ELECTROPHYSIOLOGY--EQUIPMENT AND SUPPLIES)

SHAPOVALOV, A.I.; ARUSHANYAN, E.B.

Effect of strychnine on the activity of motor and intermediate neurons of the spinal cord during stimulation of the anterior lobe of the cerebellum. Biul. eksp. biol. i med. 56 no.12:3-10 D '62. (MIRA 17:11)

1. Kafedra farmakologii (zav. - prof. A.V. Val'dman) I Leningradskogo meditsinskogo instituta.

SHAPOVALOV, A.I.

Responses of individual motor and intermediate neurons of the spinal cord to rhythmical stimulation due to polarization. Dokl. AN SSSR 145 no.4:949-952 Ag '62. (MIRA 15:7)

1. Pervyy leningradskiy meditsinskiy institut im. I.P.Pavlova. Predstavleno akademikom V.N.Chernigovskim.
(SPINAL CORD) (ELECTROPHYSIOLOGY)

SHAPOVALOV, A.I.

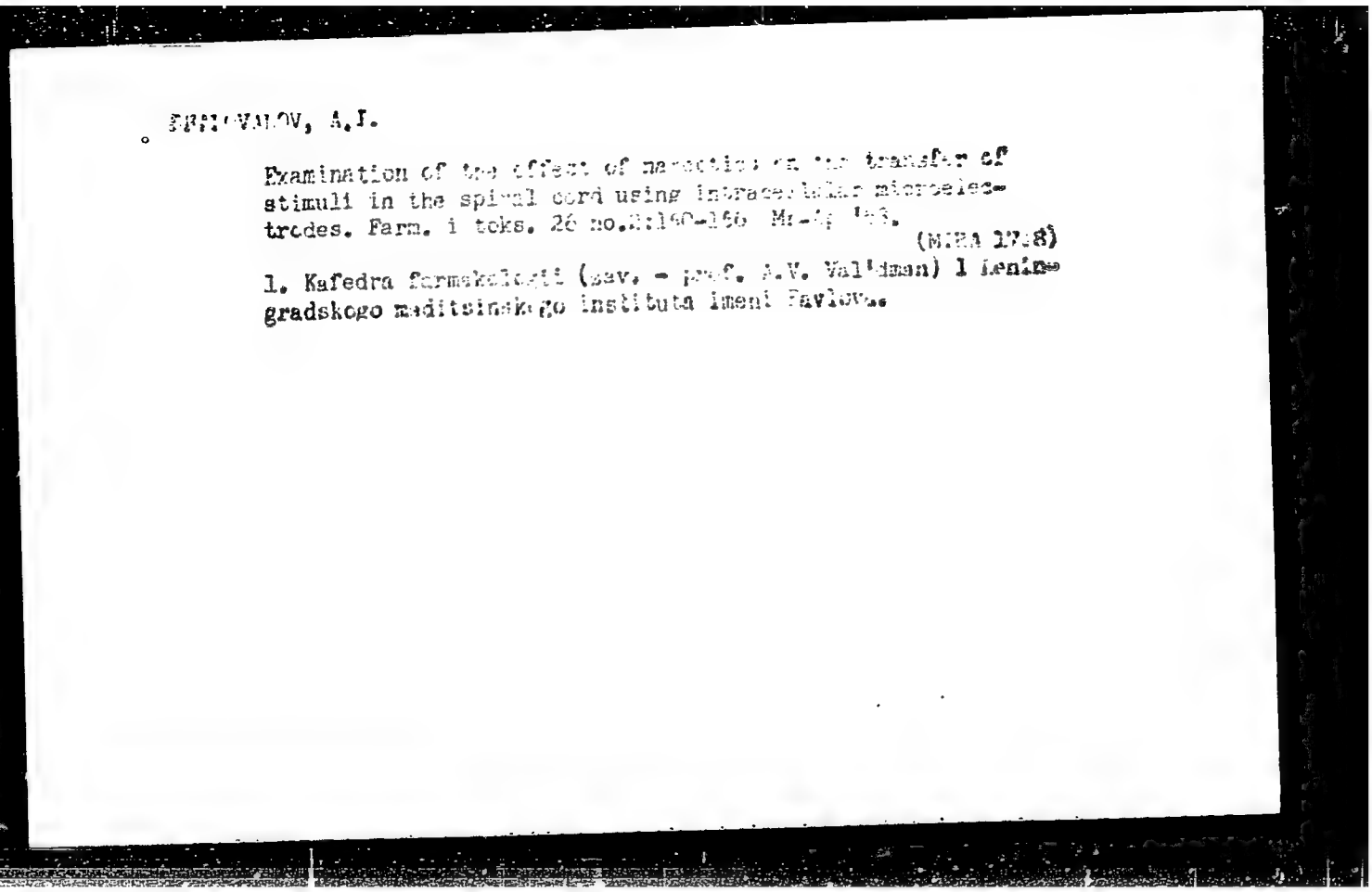
Effect of strychnine on the electric activity of individual neurons of the spinal cord. Dokl.AN SSSR 145 no.6:1424-1427 Ag '62. (MIRA 15:8)

1. Pervyy Leningradskiy meditsinskiy institut im. I.P.Pavlova. Predstavleno akademikom V.N.Chernigovskim.
(STRYCHNINE—PHYSIOLOGICAL EFFECT) (SPINAL CORD)

SHAPOVALOV, A.I.

Study of the effect of pharmacological substances on the transmission of stimulation in the spinal cord using intracellular microelectrodes. Uch. zap. Inst. farm. i khimioter. AMN SSSR 3:76-87'63. (MIRA 16:9)

1. Chair of Pharmacology (Head - Prof. A.V.Valdman) of the First Leningrad I.P.Pavlov Medical Institute.
(HYPNOTICS) (STIMULANTS) (SPINAL CORD)



IVANOVALOV, A.I.

Examination of the effect of narcotics on the transfer of stimuli in the spinal cord using intracellular microelectrodes. Farm. i toks. 26 no.[illegible] Mr-Ap '63. (MIRA 17:8)

1. Kafedra farmakologii (zav. - prof. A.V. Val'dman) Leningradskogo meditsinskogo instituta imeni Pavlova.

SHAPOVALOV, A.I.; ARUSHANYAN, E.B.

Effect of cerebellar stimulation on the activity of the motor and intermediate neurons of the spinal cord in intracellular leads. Biul. eksp. biol. i med. 56 no.11:3-10 O [i.e. N] '63. (MIRA 17:11)

1. Iz kafedry farmakologii (zav. - prof. A.V. Val'dman) I Leningradskogo meditsinskogo instituta imeni Pavlova. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Zakusovym.

SHAPOVALOV, A.I.

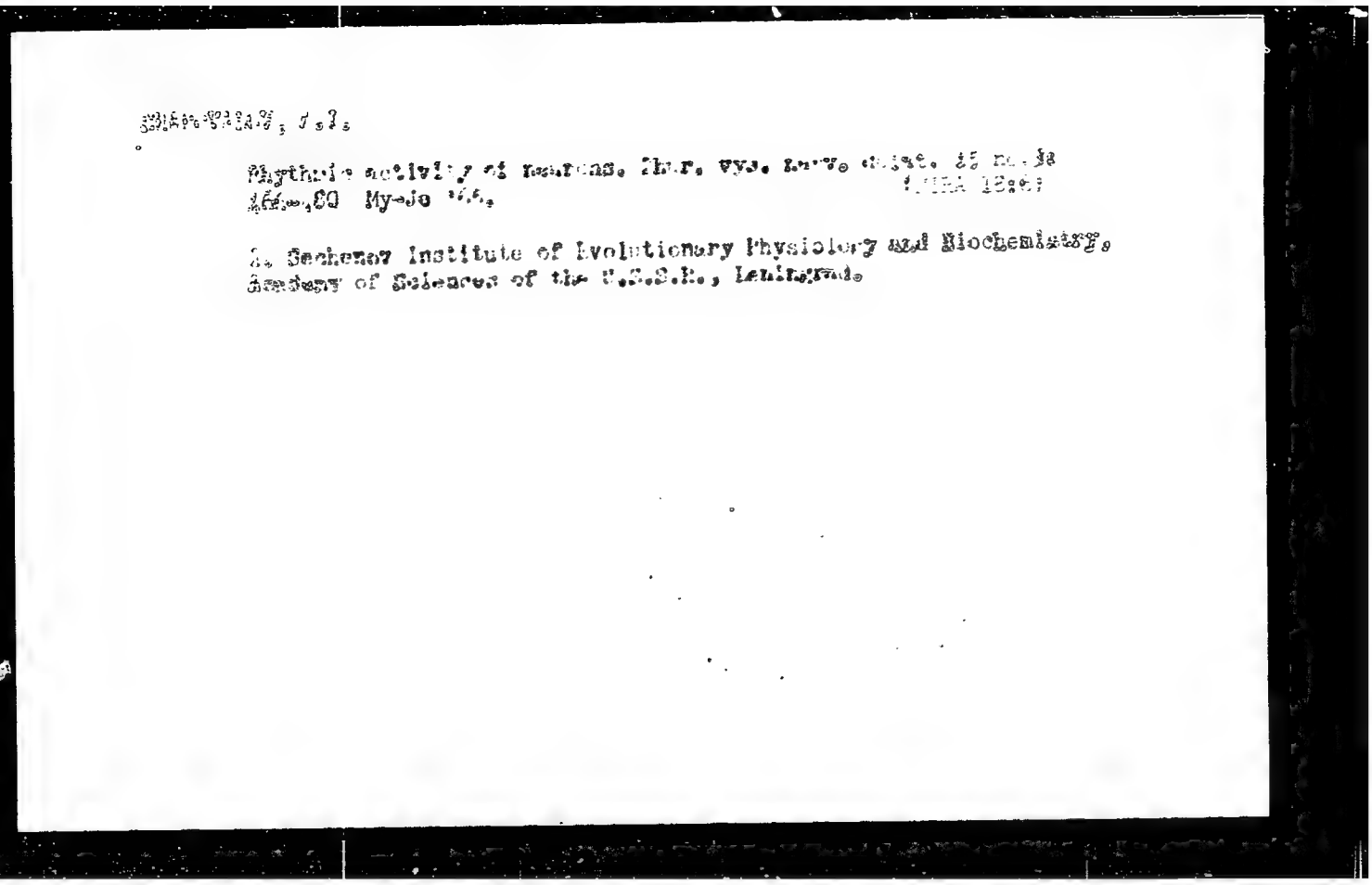
Multiple discharges and rhythmic activity of neurons in the spinal cord induced by stimultion through an intracellular microelectrode. Fiziol.zhur. 50 no.4:444-456 Ap '64. (MIRA 18:4)

1. Kafedra farmakologii 1-go Meditsinskogo instituta imeni Pavlova, Leningrad.

SHAPOVALOV, A.I.; ARUSHANYAN, E.B.

Effect of stimulants and depressants on the activity of single neurons of the spinal cord following stimulation of the cerebellum. Biul. eksp. biol. i med. 57 no. 2:73-77 F '64. (MIRA 17:9)

1. Kafedra farmakologii (zav. - prof. A.V.Val'dman) I Leningradskogo meditsinskogo instituta imeni Pavlova. Predstavlena deystvitel'nym chlenom AMN SSSR V.V.Zakusovym.



A. Sechenov Institute of Evolutionary Physiology and Biochemistry,
Academy of Sciences of the U.S.S.R., Leningrad

[redacted], A.I., doktor med.nauk

Fifth Polish symposium "Afferent innervation of muscles and motor control" held in Stockholm, Vest, AN SSSR 35 no.10:117 O '65.
(MIRA 18:10)

SHAPOVALOV, A.I.; ARUSHANYAN, E.B.

Effect of the stimulation of the brainstem and motor cortex on the activity of neurons of the spinal cord. Fiziol. zhur. 51 no.6:670-680 Je '65. (MIRA 18:6)

1. Institut evolyutsionnoy fiziologii i biokhimii imeni Sechenova AN SSSR, Leningrad.

[illegible], A.I. [Shapovalov, O.I.]

Winter stability of plastid pigments in winter wheat varieties differing in frost resistance. Ukr. bot. zhur. 22 no.4:[illegible]-27 '65. (MIRA [illegible])

1. Institut fiziologii rasteniy AN UkrSSR, Laboratoriya fiziologii ustoychivosti rasteniy.

L 6854-65 EWT(1)/EPA(w)-2/EEC(t)/EEC(b)-2/EWA(m)-2 Pab-24 AFWL/AS(mp)-2/
SSD/ASD(a)-5/AFETR/ASD(p)-3/BSD/RAEM(a)/ESD(dp)/ESD(gs)/ESD(t)
ACCESSION NR: AP4044108 S/0141/64/007/003/0531/0538

AUTHORS: Kozlov, I. G.; Shapovalov, A. S.

TITLE: Concerning the focusing and dispersion properties of the field of a cylindrical capacitor

SOURCE: IVUZ. Radiofizika, v. 7, no. 3, 1964, 531-538

TOPIC TAGS: electron optics, electron beam formation, charged particle trajectory, dispersion characteristics

ABSTRACT: The authors investigate the properties of an electron-optical system comprising a cylindrical capacitor in which, unlike in the Hughes-Rojansky capacitor, the beam of charged particles is injected at an acute angle to the common axis of the cylinders. The research was motivated by the need for exact knowledge of the energy distribution of the particles in electron beams used in microwave devices, particularly with low noise level. The feasibility of de-

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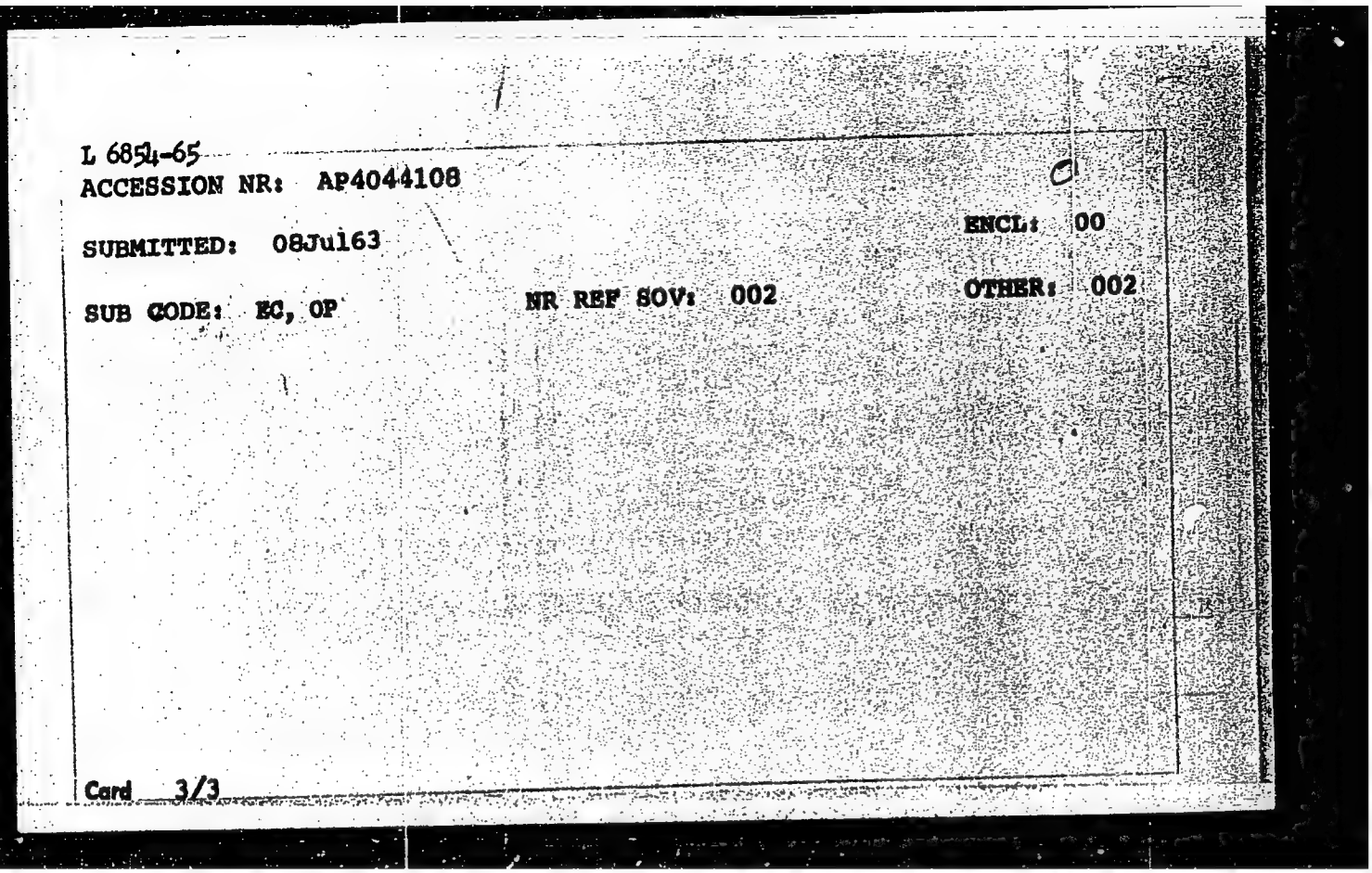
L 6854-65
ACCESSION NR: AP4044108

2

termining the energy of a charged particle from its deflection in an inhomogeneous electrostatic field of a cylindrical capacitor is investigated by first determining the main parameters of the charged-particle trajectory in such a field, and then investigating the focusing properties of the retarding field of the cylindrical capacitor. An expression is derived for the per unit energy dispersion in the field, and it is shown that in a cylindrical capacitor the per unit energy dispersion is more than 1.23 times larger than the corresponding value in a plane-parallel capacitor. It is shown that although a spherical capacitor has a higher dispersion, the one described here is easier to build. Experimental tests on the theoretical deductions of the work are now in progress. "The authors thank P. V. Golubkov for a discussion of the result and valuable remarks." Orig. art. has: 6 figures, 17 formulas, and 1 table.

ASSOCIATION: Saratovskiy gosudarstvenny*y universitet (Saratov State University)

Card 2/3



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ACCESSION NR: AP4044108

SUBMITTED: 08Jul63 ENCL: 00

SUB CODE: EC, OP NR REF SOV: 002 OTHER: 002

Card 3/3

L 54760-65 EWI(1)/EPA(w)-2/EEC(t)/EWA(m)-2 Pz-6/Pi-4 IJP(c) AT

ACCESSION NR: AP5015629 UR/0057/65/035/006/1053/1062

AUTHOR: Shapovalov, A.S.

TITLE: Concerning the influence of space charge on beam focusing and energy dispersion in the field of a plane capacitor

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.6, 1965, 1053-1062

TOPIC TAGS: electron optics, space charge, particle spectroscopy, uniform electric field

ABSTRACT: The author discusses the influence of space charge on the motion of a plane charged particle beam of finite angular divergence entering at 45° the uniform electric field of a plane capacitor such as is frequently employed in charged particle spectroscopy. The calculations are nonrelativistic. With the aid of simplifying assumptions concerning the particle distribution in the beam cross section, nonlinear equations are derived for the motion of the limiting particles of the beam. These are solved by successive approximation to

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ACCESSION NR: AP5015629

terms of the first order in a parameter that is proportional to the perveance of the beam and thus characterizes the space charge effects. The solutions are discussed at length and the effects of space charge on the maximum displacement of the beam in the direction of the field which determines whether particles will strike the opposite capacitor plate, and on the sharpness of focus are presented graphically for beams with angular divergences up to 20^{0}. Orig.art.has: 38 formulas and 4 figures.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet im.N.G.Chernyshevskogo (Saratov State University)

SUBMITTED: 29Jul64 ENCL: 00 SUB CODE: EM,NP

NR REF SOV: 003 OTHER: 002

Card 2/2

L 44115-66

ACC NR: AP6026944 SOURCE CODE: UR/0141/66/009/004/0836/0840

AUTHOR: Shapovalov, A. S.; Kozlov, I. G.

ORG: Saratov State University (Saratovskiy gosudarstvennyy universitet)

TITLE: Focusing properties of the cylindrical-capacitor field

SOURCE: IVUZ. Radiofizika, v. 9, no. 4, 1966, 836-840

TOPIC TAGS: electric capacitor, spectrometer

ABSTRACT: This is an extension of a previous authors' work (IVUZ. Radiofizika, 1964, no. 7, 531) where the focusing and dispersing properties of the electrostatic field of a cylindrical capacitor were considered in the case when a slightly diverging stream of charged particles was introduced at an acute angle to the cylinder axis. The present article offers a formula for the size of the image of a point electron source. Theoretically, this size could be determined from the following formula: $x_0/r_0 = 4\xi \exp(\xi^2 \sin^2\theta)\cos\theta \int_0^{\xi \sin\theta} e^{-z^2} dz$; however, this way is too difficult for practical purposes. Hence, the above formula is simplified and expanded into α-power series. The source image size is $\Delta x_0 = x_0(C_2\alpha^2 \pm C_3\alpha^3)$. The focusing conditions in a

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L 44115-66

ACC NR: AP6026944 O

cylindrical capacitor, for the case of nonuniformity field parameter $\xi = 1.2$, were experimentally investigated. A plot of coupling coefficient vs. entrance angle is presented; a minimum experimental value of the coupling coefficient was 58°. "In conclusion, the authors wish to thank P. V. Golubkov for discussing the results and for his valuable comments." Orig. art. has: 4 figures and 9 formulas. [03]

SUB CODE: 20,09 / SUBM DATE: 22Oct65 / ORIG REF: 002 / OTH REF: 006

Card 2/2 LC

L 33398-66 EWT(1)/EWT(m)/ETC(f)/T IJP(c)

ACC NR: AP6015315 (A, N) SOURCE CODE: UR/0057/66/036/005/0920/0930

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0

AUTHOR: Shapovalov, A. S.

ORG: Saratov State University im. N.G.Chernyshevskiy (Saratovskiy gosudarstvennyy universitet)

TITLE: On the influence of the space charge of the particles on the focusing and dispersion properties of the electrostatic fields of cylindrical and plane energy analyzers

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 5, 1966, 920-930

TOPIC TAGS: electron optics, space charge, electrostatic field, electron beam, ion beam focusing, nonlinear differential equation

ABSTRACT: The effect of the space charge of the analyzed beam on the focusing and dispersion of a beam of charged particles in the field of a cylindrical capacitor is calculated and the results are compared with those previously obtained by the author (ZhTF, 35, 1053, 1965) for the case of a plane capacitor. The electrode and beam configuration is shown in the figure. The effect of space charge on the trajectories is calculated by the method of P.Lloyd, Smith, W.E.Parkins, and A.T.Forrester (Phys. Rev., 72, 989, 1947) with the assumption that the angles θ and α (see the figure) are small. Nonlinear differential equations are written for the limiting trajectories of the beam

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L 33398-66

ACC NR: AP6015315

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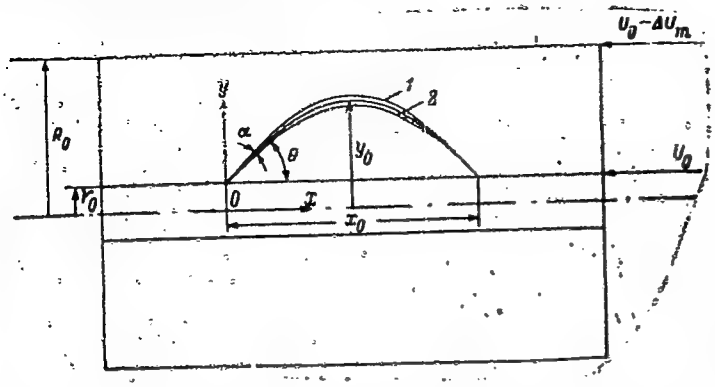

Axial section of the cylindrical capacitor showing the focused beam.

(trajectories 1 and 2 in the figure) and approximate solutions are obtained by first averaging the terms describing the spacecharge effect over the unperturbed orbit. To test the accuracy of this approximation the equations were solved numerically with a computer for several values of the parameters; comparison of the numerical solutions with the approximate solutions indicated that the latter were in error by not more than 1 %. It is found that the effect of space charge is to shift the position of best focus, decrease the relative dispersion, limit the maximum attainable dispersion, and decrease the resolving power. The influence of a small space charge is found to decrease the size of the image of a point source on the inner cylindrical electrode; further increase of the space charge (i.e., increase of the beam current), however, leads to an increase in the size of the image. The author thanks P.V.Golubkov and I.G.Kozlov for proposing the topic and for their interest in the work and discussion of the results. Orig. art. has: 30 formulas and 7 figures.

SUB CODE: 20/ SUBM DATE: 20Jul65/ ORIG REF: 002/ OTH REF: 005

Card 2/2

SHAPOVALOV, A.I.

On the poultry farms of Smela District. Ptitsevodstvo 8 no.5:45 My '58. (MIRA 11:5)

(Smela District--Poultry)

SHAPOVALOV, A. I.

Giaginskaya mashinnotraktornaya stantsiya (Giaginskaya machine-tractor station)
Moskva, Sel'khozgiz, 1952. 44p. illus., ports.

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SHAPOVALOV, A.I., elektroslesar'.

Automatization of scraper-conveyers at the "Bulanash 1-2" mine.
Ugol' 32 no.7:44-45 Jl '57. (MLRA 10:7)

1. Shakhta "Bulansh 1-2."
(Mining machinery) (Automatic control)

SHAPOVALOV, A.I.; VODIL'NIKOV, A.T.; BOGRYY, V.S., inzh., red.; KUTENKOVA, G.M., tekhn.red.

[Remote control of stationary belt-conveyer lines] Distantsionnoe avtomatizirovannoe upravlenie liniiami statsionarnykh lentochnykh konveierov. Sverdlovsk, TSentr.biuro tekhn. informatsii, 1959. 10 p. (MIRA 14:4)
(Remote control) (Conveying machinery)

SHAPOVALOV, A.P., inzh.-mekhanik

Feed conveyor and distributor. Mekh. sil'. hosp. 12 no. 6:21-22 Je '61. (MIRA 14:5)

(Conveying machinery)

SHAPOVALOV, A. P., prepodavatel'

"Utilization of tractors and machinery" by M. K. Didenko. Reviewed by A. P. Shapovalov. Mekh. sil'. hosp. 12 no.10:32 O '61. (MIRA 14:11)

(Agricultural machinery)
(Tractors)
(Didenko, M. K.)

BELYAKOV, M.N., inzh.; SHAPOVALOV, A.P., inzh.; GUSAKOV, A.N., inzh.; DOVGOLENKO, N.V., inzh.; BESPALOV, V.N., inzh.; KUZNETSOV, D.K., inzh.; SUKHANOV, L.F., inzh.

Obtaining a flat sheet of transformer steel. Stal' 25 no.12: 1132-1134 D '65. (MIRA 18:12)

1. Novolipetskiy metallurgicheskiy zavod i TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii imeni I.P. Bardina.

PETLYAKOV, M.M., inzh.; SHAPOVALOV, A.P., inzh.; GUSAKOV, A.N., inzh.; UDOVICHENKO, N.V., inzh.; BESPALOV, V.N., inzh.; KUZNETSOV, D.K., inzh.

Obtaining a flat sheet of transformer steel. Stal' 25 no.12: 1132-1134 D '65. (MIRA 18:12)

1. Novolipetskiy metallurgicheskiy zavod i TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii imeni I.P. Bardina.

L 26054-66 EWT(1)/EWT(m)/T

ACC NR: AP5022802 SOURCE CODE: UR/0141/65/008/004/0775/0783

80
76
13

AUTHOR: Shapovalov, A. S.; Kozlov, I. G.

ORG: Saratov State University (Saratovskiy gosu darstvennyy universitet)

TITLE: Some results of an experimental study of properties of an electrostatic analyzer of charged particle energy

SOURCE: IVUZ. Radiofizika, v. 8, no. 4, 1965, 775-783

TOPIC TAGS: electrostatics, charged particle, electrostatic field, spectrometer, electric capacitor, electron beam, electromagnetic wave dispersion

ABSTRACT: The focusing and dispersion properties of an electrostatic field of a cylindrical capacitor were studied and the possibility was examined for using it as an element of the charged particle energy spectrometer. The investigation indicated that during an injection of charged particle current at an acute angle to the axis of the cylindrical capacitor the field of the latter has a greater specific dispersion for energy than the plane capacitor field. Results were presented for the experimental study of the main characteristics of the analyzer of charged particle energy which was used as the analyzing element of the cylindrical capacitor field with an injection of particles at an acute angle to

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ACC NR: AP5022802 4

the axis of the cylinders. The results of the experiment were compared with those of the theoretical investigation. I. G. Kozloy, A. S. Shapovalov (Izv. vy*ssh. uch. zav., Radiofizika, 7, 531, 1964). The resolution of one spectrometer was compared with that of another with the field of the plane capacitor as the dispersive element. The plane capacitor had slots of approximately the same sizes as the cylindrical capacitor which was investigated (0.25 mm x 6.3 mm). The aperture angle of the electronic beam during its injection into both the plane capacitor and the cylindrical one is the same. Both analyzers were studied with the aid of electron beams with filamentary tungsten emitters. The main difference in geometric sizes of spectrometers consisted of the distance between the slots. The authors are deeply grateful to P. V. Golubkov for his interest in the work and his valuable discussions on results obtained, to Ye. I. Markin for his careful preparation of the experiments, to L. L. Strakhova and G. F. Shapovalova for their help in obtaining measurements. Orig. art. has: 7 fig. and 6 equations.

SUB CODE: 20 / SUBM DATE: 22Sept64/ ORIG REF: 008/ OTH REF: 002

Card 2/2 pla

USSR/Diseases of Farm Animals - Diseases Caused by Bacteria and Fungi. R.

Abs Jour : Ref Zhur - Biol., No 6, 1958, 26206

Author : Shiryayev, D.T., Shapovalov, A.T.

Inst : Rostov-on-the-Don Governmental Scientific Research Antiplague Institute.

Title : Examinations of Antelopes (Saiga tatarica) in the Northeast Prekaspian Area for Brucellosis Infection.

Orig Pub : Tr. Rostovsk.-n.-D. gos. n.-i. protivochumn. in-ta, 1956, 10, 432-434

Abstract : When the blood of antelopes was serologically examined for brucellosis (Rayt and Khedl'son reactions), a certain percentage of positively reacting animals was found. Attempts to obtain a brucellosis culture from such antelopes did not produce positive results.

Card 1/1

6

PINCHUK, I.S., kand.tekhn.nauk; SHAPOVALOV, A.T., inzh.

Running of machines with crankgears. Mekh. i elk. sots. sel'khoz. 15 no.2:38-40 '58. (MIRA 11:5)

1. Chelyabinskiy politekhnicheskiy institut (for Pinchik). 2. Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Shapovalov).
(Electric machines)

SHAPOVALOV, A. T., Cand of Tech Sci — (diss) "Investigation of the Crossover Process of the Electrical Drive of a Machine With a Crank Gear. (For Example a Verticle Saw Chassis)," Chelyabinsk, 1959, 20 pp (Chelyabinsk Institute for the Mechanization and Electrification of Agriculture) (KL, 4-60, 121)

PINCHUK, I.S., kand.tekhn.nauk; SHAPOVALOV, A.T., inzh.

Drawing up diagrams for gang-saw motors used in lumbering. Mekh. i elek.sots.sel'khoz. 17 no.3:39-41 '59. (MIRA 12:8)

1. Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.
(Saws) (Electric motors)

SHAPOVALOV, A.T.

New "SKB-6" dryer. Tekst. prom. 19 no.7:75-76 Jl '59.
(MIRA 12:11)

1. Nachal'nik remontno-montazhnogo otdela pryazhekrasil'nogo tsekha Khersonskogo khlopchatobumazhnogo kombinata.
(Drying apparatus--Textile fabrics)

PYASTOLOV, A.A.; SHAPOVALOV, A.T.

Review of I.N.Gurov and M.I.Kononov's textbook "Electrical equipment of agricultural machinery." Trakt. i selkhozmash. 32 no.3:46-47 Mr '62. (MIRA 15:2)
(Agricultural machinery--Electric equipment) (Gurov, I.N.) (Kononov, M.I.)

MARTINEVSKIY, I.I.; SHCHERBIN, M.A.; TARAKANOV, N.F.; SHAPOVALOV, A.T.

Fate of plague bacteriophage in the organism of healthy and plague-infected greater gerbils and the possible passage of its transmission under experimental conditions. Zhur. mikrobiol. epid. i immun. 40 no.5:31-34 My '64.

(MIRA 17:6)

1. Iz Srednerusskogo nauchno-issledovatel'skogo protivochumnogo instituta Ministerstva zdravookhraneniya SSSR.

[redacted], L.S., GEYEN, G. Ye., kand. med. nauk; ZAYDENOV, A.M., kand. med. nauk; KATSNEL'SON, I.A.; KIREYEVA, L.P.; KOTSAREV, V.M. SUTIN, I.A., prof. SHAPOVALOV, A.V.

Some characteristics of respiratory infections of adenovirus etiology in adults. Voen.-med. zhur. no. 1:66-68 Ja '66
(MIRA 19:1)

OSIKOVKOV, A.I.; SHAKOVALOV, B.G.

Burnishing instead of polishing. Mashinostroitel' no.8:30 Ag '64.
(MIRA 17:10)

LAVROVA, T.F.; NOVIKOV, Ye.G.; KHARIN, V.S.; SHAPOVALOV, A.Ye.; KOLOKOLOVA, V.D.; KHRUSHCHINA, K.M.; MINEYEVA, G.T.

Temporary exclusion of the left cardiac ventricle from circulation in an experiment. Grud. khir. 6 no.5:62-66 S-O '64.

(MIRA 18:4)

1. Kafedra operativnoy khirurgii s topograficheskoy anatomiyey (zav. - prof. T.F.Lavrova), tsentral'naya nauchno-issledovatel'skaya laboratoriya i kafedra biokhimii (zav. - dotsent K.M. Khrushchina) Voronezhskogo meditsinskogo instituta.

BAYKOV, I.M.; IVANOV, Ye.N.; SHAPOVALOV, D.K.

Utilization of oil field waste waters in the Tatar A.S.S.R.
Neftepromm. delo no.1:11-15 '65. (MIRA 18:3)

1. Neftepromyslovoye upravleniye "Leninogorskneft'".

BAYKOV, N.M.; MANSUROV, E.I.; SHAPOVALOV, D.K.

Sealing oil and gas gathering systems. Neftepром. delo no.8:24-28 '65. (MIRA 18:9)

1. Neftepromyslovoye upravleniye "Leninogorskneft'".

GERASIMOV, V.V.; GROMOVA, A.I.; SABININ, A.A.; CHAPOVALOV, E.T.

[Autoclave for electrochemical research] Avtoklav dlia elektrokhimicheskikh issledovanii. Moskva, Glav. upr. po ispol'zovaniiu atomnoi energii, 1960. 8 p.
(MIRA 17:2)

36

PHASE I BOOK EXPLOITATION SOV/5256

Gerasimov, Valentin Vladimirovich, ed., Candidate of Chemical Sciences.

Korroziya reaktornykh materialov; sbornik statey (Corrosion of Nuclear-Reactor Materials; a Collection of Articles) Moscow, Atomizdat, 1960. 284 p. 3,700 copies printed.

Ed.: A.I. Zavodchikova; Tech. Ed.: Ye.I. Mazel'.

PURPOSE: This collection of articles is intended for mechanical and metallurgical engineers as well as for scientific research workers concerned with the construction of nuclear reactors.

COVERAGE: The water corrosion of various types of stainless steel and alloys under high pressures and temperatures is investigated from the point of view of the use of these materials for the construction of nuclear reactors. Attention is given to the following: the use of oxygen for protecting steel against corrosion, the behavior of steel in high-temperature

Card 1/9

Corrosion of Nuclear- (Cont.) SOV/5256

water with various compositions, factors of metal stress corrosion, intergranular corrosion, the mechanism of corrosion cracking, and the corrosion resistance of aluminum and zirconium alloys. Conclusions based on test results are included. No personalities are mentioned. Most of the articles are accompanied by references. Of 238 references 97 are Soviet.

TABLE OF CONTENTS:

30641

S/081/61/000/020/045/089
B107/B101

18.8300

AUTHORS: Gerasimov, V. V., Gromova, A. I., Shapovalov, E. T.

TITLE: Effect of oxygen on the corrosion behavior and the electrochemical behavior of 1Kh18N9T (1Kh18N9T) steel

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 258, abstract 20I138 (Sb. "Korroziya reaktorn. materialov". M., Atomizdat, 1960, 49-52)

TEXT: The authors studied the anodic and cathodic processes during corrosion of 1Kh18N9T (1Kh18N9T) steel in distilled water at 300°C and 87 atm. The rate of anodic dissolution of the metal is accelerated with a shift of the potential to the positive side. Addition of 400 - 430 mg/liter of O_2 has no effect on the anodic process but increases the rate of the cathodic process (shifting the stationary potential of 1Kh18N9T and ЭИ-851 (EI-851) steels to the positive side). Corrosion remains uniform for all O_2 concentrations. [Abstractor's note: Complete translation.]

Card 1/1

S/081/61/000/020/049/089
B107/B101

AUTHORS: Gerasimov, V. V., Aleksandrova, V. N., Gromowa, A. I., Popova, K. A. Shapovalov, E. T.

TITLE: Study of the electrochemical behavior and the corrosion behavior of 1Х18Н9Т (1Kh18N9T) stainless steel in water of different compositions

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 259, abstract 20I146 (Sb. "Korroziya reaktorn. materialov", M., Atomizdat, 1960, 52-63)

TEXT: The authors studied the kinetics of electrode processes of 1Х18Н9Т (1Kh18N9T) stainless steel in distilled water and in solutions of Na_2SO_3 and Na_2SO_4, HNO_3, HCl and H_2SO_4, NaOH, NaCl at room temperature and 300°C, and at 87 atm pressure. It was shown that in all media, except for 0.15 N HCl, the 1Kh18N9T steel was in a passive state at corresponding potential values; in the solutions mentioned, the rate of dissolution was 0.016 - 0.020 μa/cm².

Card 1/2

Study of the electrochemical behavior,..

S/081/61/000/020/049/089
B107/B101

[Abstracter's note: Complete translation.]

Card 2/2

18 8300

2831
S/081/61/000/016/022/040
B106/B101

AUTHORS. Gerasimov, V. V., Cromova, A. I., Shapovalov, E. T.

TITLE. Corrosive cracking of steel of the type 1X18H9T (1Kh18N9T)

PERIODICAL. Referativnyy zhurnal Khimiya, no. 16, 1961, 306, abstract 16И170 (Sb. "Korroziya reaktorn. materialov", M., Atomizdat, 1960, 139-144)

TEXT. The study of the effect of the O_2 and Cl^- concentration on the corrosive cracking of steel of the type 1X18H9T (1Kh18N9T) showed that at a constant Cl content of 0.1 mg/liter the time until corrosive cracking sets in increases if the O_2 content is reduced from 40 to 0.4 mg/liter.

[Abstracter's note: Complete translation.]

Card 1/1

S/081/61/000/020/047/089
B107/B101

AUTHORS: Gerasimov, V. V., Gromova, A. I., Shapovalov, E. T.

TITLE: Study of the corrosion resistance of stainless steels in water vapor mixture at overcritical temperature and high pressures

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 259, abstract 20I144(Sb. "Korroziya reaktorn. materialov". M., Atomizdat, 1960, 185 - 190)

TEXT: The authors studied the corrosion resistance of stainless steels of the types 1Х18Н9Т (1Kh18N9T), ЭИ-851 (EI-851), ЭИ-696 (EI-696) under overcritical conditions in strained and relieved state. They showed that corrosion of these steels was uniform in air-saturated water vapor mixture at 500 and 550°C, and that these steels had a quality КС 3 (KS 3) according to ГОСТ 5272-50 (GOST 5272-50). It is pointed out that mechanical stresses increase the rate of general corrosion. The corrosion of EI-851 steel in relieved and strained state decreases with time; the presence of O_2 at

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S/081/61/000/020/047/089
B107/B101

Study of the corrosion resistance...

550°C causes pitting corrosion. [Abstracter's note: Complete translation.]

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30198

18.8300

S/080/61/034/011/011/020
D243/D301

AUTHORS: Gerasimov, V.V., Gronova, A.I., and Shapovalov, E.T.

TITLE: The corrosion behavior of zirconium in distilled water at 85°C

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 11, 1961, 2473 - 2477

TEXT: The authors studied the corrosion resistance of zirconium (1) in distilled water at 85°C and (2) in contact with 1X18H9T (1Kh18N9T) steel and AlM aluminum, in distilled water at 85°C. Three types, A (greatest impurity), B, C (least impurity) of zirconium, containing up to 5 % impurity, were used in the tests. The samples were suspended on glass hooks in glass vessels in a thermostat after being previously treated to remove surface impurities. Contact was achieved as shown in Fig. 1. Corrosion resistance was estimated visually and by weight loss. The maximum weight loss was shown by samples of A after 100 hours (0.815 g/m^2), equivalent to a corrosion rate of 0.008 g/m^2. Under these conditions therefore,

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30198
S/080/61/034/011/011/020
D243/D301

The corrosion behavior of zirconium ...

Zirconium may be considered highly resistant. On a 1000 hour test it is considered completely resistant. Contact with stainless steel and aluminum alters the kinetics of corrosion, but leads to no increase in the rate. A 1 m gap between the contacting surfaces causes no change in behavior. The high corrosion resistance depends on zirconium passivity in these conditions. There are 6 figures, 2 tables and 2 Soviet-bloc references.

SUBMITTED: November 28, 1960

Card 2/2

S/076/61/035/006/010/013
B127/B203

AUTHORS: Gerasimov, V. V., Gromova, A. I., Sabinin, A. A., and Shapovalov, E. T.

TITLE: Autoclave for electrochemical investigations at high temperatures and pressures

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 6, 1961, 1359-1361

TEXT: The authors describe an autoclave to which the reference electrode is attached outside and is kept at room temperature. An electrolytic cell establishes the contact with the solution in the autoclave. It must also endure the higher temperatures in the autoclave. A thermodiffusion potential results from the temperature gradient in the cell, which has to be taken into account. Since glass and quartz are dissolved, metal is used for the cell. Fig. 1 shows the measuring arrangement in a simulated representation. Due to earthing of the potentiometer 10, the electrode potential behaves just as in a glass cell. An essential shortcoming of the autoclave of Fig. 2 is that the cathodic and anodic curves of experiments in distilled water are only dependable for those curve sections

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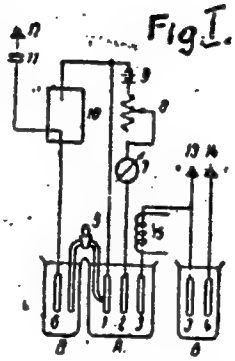
where the current density does not exceed 70 μa/cm^2. In the autoclave construction of Fig. 3, the anodic and cathodic spaces are divided. This shifts the major part of the potential drop between the electrodes into the electrolytic cell. Therefore, the residual drop in the vacuum (containing the specimen to be tested) is small and negligible. This also applies to the thermodiffusion potential formed due to the temperature increase in the cell. At the boundary of similar solutions of different temperatures, the value was only about 10^{-6} v/deg. There are 3 figures and 1 non-Soviet-bloc reference. The reference to the English-language publication reads as follows: M. Bonnemay, Proc. meeting international committee of electrochemical thermodynamics and kinetics, 1954, London, 1955, 68.

SUBMITTED: October 16, 1958

Autoclave for electrochemical...

Fig. 1: Simulating scheme for measurements in the autoclave. Legend: (1,2) specimens, (3) autoclave body, (4) conduit, (5) electrolytic cell, (6) calomel half-cell, (7) microammeter, (8) rheostat, (9) current source, (10) potentiometer, (11) capacitor (2μF), (12) potentiometer earthing, (13, 14) earthing for (3, 4), (15) coil (100 windings) for heating the autoclave.

Fig. 1.



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Autoclave for electrochemical...

Fig. 2: Autoclave. Legend: (1) Autoclave body, (2) cover, (3) electric connections, (4) stopper, (5) nipple, (6) tube, (7) nozzle, (8) nut, (9) specimens, (10) insulations. (4) is a birchwood stopper impregnated with water; it safeguards the electrolytic contact and hermetic sealing. (5,6,7) are made of fluoroplast, and are cooled outside with water.

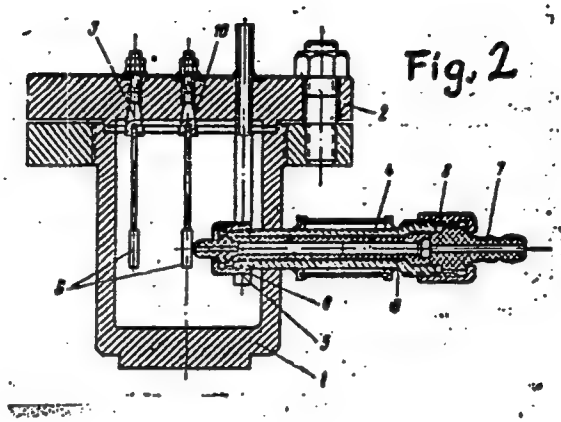

Fig. 2

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SHAPOVALOV, E.T.

2

AM4036546 BOOK EXPLOITATION S/

Gerasimov, V. V.; Gromova, A. I.; Golovina, YE. S.; Moskvichev, G. S.; Pavlova, F. S.; Smirnov, V. V.; Shapovalov, E. T.

Corrosion and irradiation (Korroziya i obluchenive), Moscow, Gosatomizdat, 1963, 267 p. illus., biblio. 3,000 copies printed.

TOPIC TAGS: corrosion, irradiation, nuclear reactor, nuclear reactor material, metallurgy, stainless steel, chromium steel, carbon steel, low alloy steel, aluminum alloy, protective coating, electrochemical behavior

PURPOSE AND COVERAGE: The basis of this monograph was the research conducted by the authors in recent years that has been published in the periodical literature and the work of Soviet and foreign authors on the problems of the corrosion resistance of structural materials. The monograph consists of ten chapters in which corrosion and the protection of structural materials used in reactors, the interaction of radiation of the nuclear reactor with a substance and the effect of radiation on the corrosion and electrochemical behavior of metals are examined. The general and systematized material on the corrosion resistance of metals used in reactors will be useful to a wide circle of designers, researchers, and engineers

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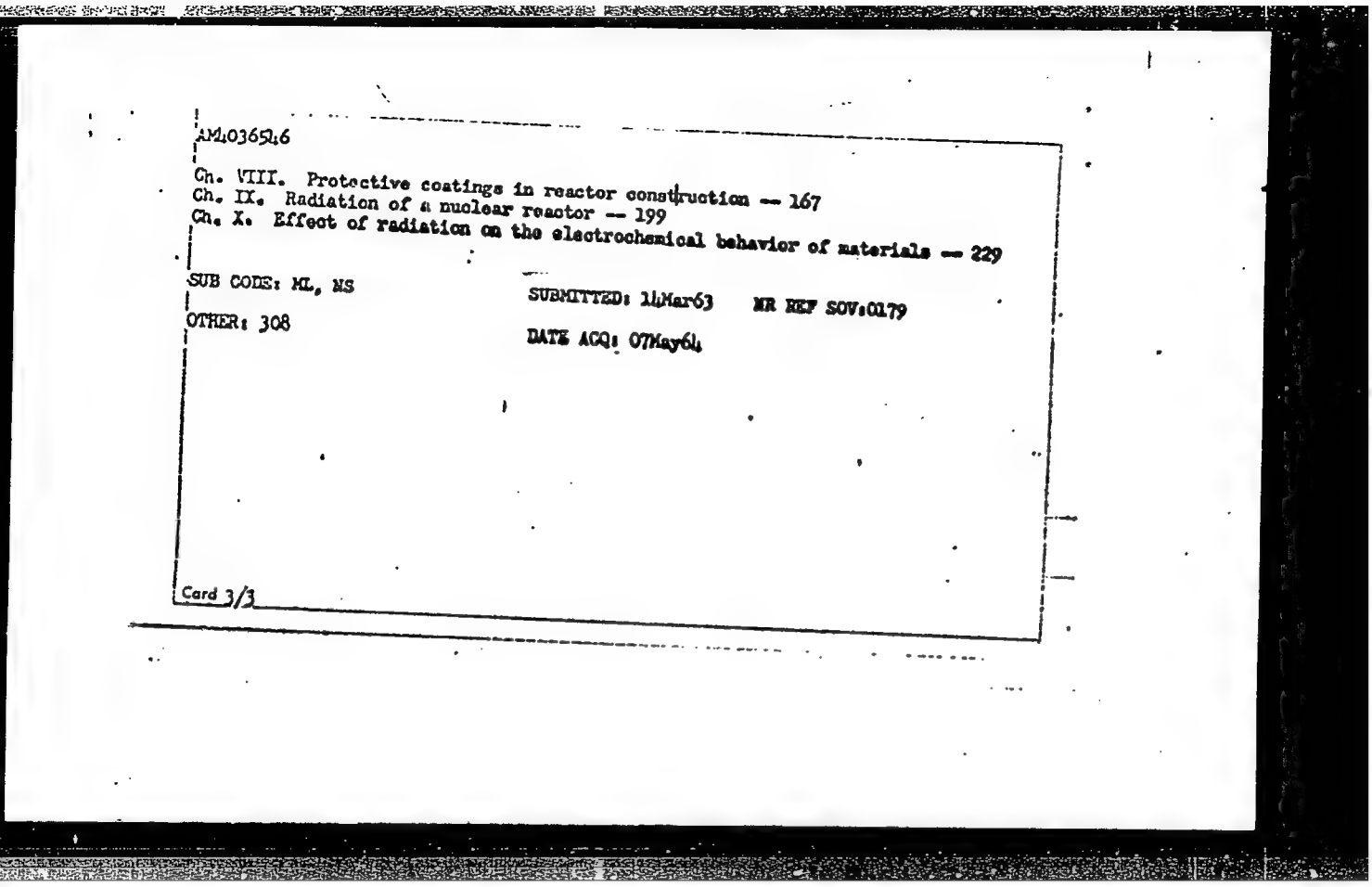
concerned with problems of reactor construction. Chapters I, VII, IX, and X were written by V. V. Gerasimov, Chapters II, IV — E. T. Shapovalov, Chapter III — A. I. Gromova, Chapter V — V. V. Smirnov, Chapter VI — G. S. Moskvichev, Chapter VIII — F. S. Pavlova and Ye. S. Golovina. The authors express their gratitude to I. Ye. Zimakov for assistance in writing Chapter IX and their associates who participated in the research.

TABLE OF CONTENTS:



AM4036516

Ch. VIII. Protective coatings in reactor construction -- 167
Ch. IX. Radiation of a nuclear reactor -- 199
Ch. X. Effect of radiation on the electrochemical behavior of materials -- 229

SUB CODE: ML, NS SUBMITTED: 14Mar63 NR REF SOV:0179

OTHER: 308 DATE ACQ: 07May64

Card 3/3

GERASIMOV, V.V.; GROMOVA, A.I.; SHAPOVALOV, E.T.

[Effect of oxygen on the corrosion and electrochemical behavior of 1Kh18N9T steel] Vliianie kisloroda na korrozionnoe i elektrokhimicheskoe povedenie stali 1Kh18N9T. Moskva, Glav.upr. po ispol'zovaniiu atomnoi energii, 1960. 5 p. (MIRA 17:1)

(Steel—Corrosion)
(Water, Distilled—Oxygen content)

GERASIMOV, V.V.; ALEKSANDROVA, V.I.; GROMOVA, A.I.; POPOVA, K.A.; SHAPOVALOV, E.T.

[Investigating the electrochemical and corrosion behavior or 1Kh18N9T stainless stell in water of various composition] Issledovanie elektrokhimicheskogo i korrozionnogo povedeniia nerzhaveiushchei stali 1Kh18N9T v vode razlichnoho sostava. Moskva, Glav.upr. po ispol'zovaniiu atomnoi energii, 1960. 17 p. (MIRA 17:1)
(Steel, Stainless--Corrosion) (Electrochemistry)

GERASIMOV, V.V.; GROMOVA, A.I.; SHAPOVALOV, E.T.; SHATSKAYA, O.A.

[Development of the method of electochemical measurements at a temperature up to 300° C and pressure up to 100 kg/cm^2] Razrabotka metodiki elektrokhimicheskikh izmerenii pri temperature do 300° C i davlenii do 100 kg/cm^2. Moskva, Gos.kom-t po ispol'zovaniiu atomnoi energii, 1961. 20 p. (MIRA 17:1)

GELASIMOV V.V., GROMOVA, A.I.; SHAPOVALOV, S.T.

Autoclave for chemical and corrosion tests at high temperatures and pressures. Zav. lab. 30 no.[illegible] 1964. (MIRA 17:9)

L 48305-65 EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) MJW/JD/WB

ACCESSION NR: AP5006295 S/0096/65/000/003/0036/0038

AUTHOR: Gerasimov, V. V. (Doctor of technical sciences, Professor); Gromova, A. I. (Engineer); Shapovalov, E. T. (Engineer)

TITLE: Corrosion resistance of copper and copper alloys in water under static conditions

SOURCE: Teploenergetika, no. 3, 1965, 36-38

TOPIC TAGS: copper, copper alloy, metal corrosion, corrosion resistance

ABSTRACT: Copper and 11 copper alloys (see table 1 of the Enclosure) were tested for corrosion resistance in water. It was found that M-2 alloy belongs to the class of extremely stable materials according to GOST specifications 5072-52 under static conditions in highly pure deaerated water with pH = 5.6-7 from room temperature to 300°C. This alloy cannot be used in highly pure water with pH > 7.9 and more than 1 mg/l of oxygen as its corrosion resistance is reduced under these conditions. BrB-2 and BAZhM alloys have the highest resistance to corrosion of the metals investigated in highly pure water at 80-300°C and in a steam-air atmosphere at 100°C. LS-59-1 and L62 brass as well as AMTs and BrOF bronze cannot be used as structural material in highly pure water at 200 and 300°C. All data given on cor-

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L 48305-65

ACCESSION NR: AP5006295 0

rosion rates apply only to static operational conditions. A water flow higher than 1.5 m/sec causes a considerable increase in the corrosive and erosive destruction of copper. Orig. art. has: 4 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: MM

NO REF SOV: 002 OTHER: 003

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L 48305-65

ACCESSION NR: AP5006295 ENCLOSURE: 01

Table 1. Chemical composition of the copper alloys investigated

Material	Content of elements in % by weight										
	Cu	Al	Mn	Fe	Ni	Si	Be	Sn	Zn	Pb	As
M-2	Rem.	--	--	0.05	0.2	--	--	0.05	--	0.01	0.010
BrAZhM	"	9.43	2.3	3	--	--	--	--	--	--	--
BrAZh	"	9.4	2.02	2.5	--	--	--	0.1	--	--	0.01
BrKMTs	"	--	1.65	--	--	3.02	--	--	--	--	--
BrOF	"	0.01	--	0.05	--	0.02	--	7.25	--	0.02	--
BrB-2	"	0.15	--	0.15	0.22	0.15	2.18	--	--	0.005	--
	"	--	--	1.0 ÷ 1.4	--	--	--	--	--	--	--
AMTs	"	8	1.5	--	14.5	--	--	--	19.0	--	--
MNTs	"	--	0.23	--	16.2	--	--	--	19.0	--	0.1
LS-59-1	58.7	--	--	--		--	--	--	--	1.52	--
L62	62	--	--	0.15		--	--	--	--	0.08	--

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L 14979-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) MJW/JD/WW/JW/WB
ACC NR: AP6001803 (N) SOURCE CODE: UR/0089/65/019/006/0546/0549

AUTHOR: Belous, V. N.; Gromova, A. I.; Shapovalov, E. T.; Gerasimov, V. V.

ORG: none

TITLE: Corrosion resistance of construction materials in boron-containing solutions

SOURCE: Atomnaya energiya, v. 19, no. 6, 1965, 546-549

TOPIC TAGS: corrosion rate, boron compound, nuclear reactor material, nuclear reactor shield

ABSTRACT: Since boron has a large cross section for thermal neutron capture, boron-containing solutions are used for neutron shielding and reactor control. The use of aqueous solutions of boron, however, raises the question of corrosion resistance to such solutions of various construction materials. The authors carried out corrosion tests up to 100C in solutions of boric acid, sodium tetraborate, and ammonium tetraborate. Tabulated data are presented showing 1) the characteristics of the original solutions at room temperature; 2) the rate of corrosion in the 20—100C temperature range for periods of 100 - 500 hr of OKh18N10T steel, VT-1-2 alloy (Ti), AMg-5 alloy (Al), S-1 lead, and steel 20 in deaerated and air-saturated boron-containing solutions; 3) the ratio of the amount of metal going into the solution to the

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L 14979-66
ACC NR: AP6001803

amount of metal lost due to corrosion; and 4) the rate of corrosion of these materials in boric acid at 100C for a period of 100 hr. Orig. art. has: 4 tables.

SUB CODE: 11, 18 / SUBM DATE: 17Mar65 / ORIG REF: 001 / OTH REF: 006

Card 2/2 vmd

UDC: 620.193.4: 621.039.546

SAVINKOVA, Ye.I.; DEGTYAREVA, T.A.; SHAPOVALOVA, O.P.; SHAPOVALOV, E.I.

Settling of magnesium oxide in molten carnallite. Zhur.prikl.-khim. 35 no.6:1371-1374 Je '62. (MIRA 15:7)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.
(Magnesium oxide) (Carnallite)

ANTONOV, G.I.; BABENYSHEV, M.A.; BERMAN, Sh.M.; SHAPOVALOV, E.V.

Useful life of the checkerwork in 600-ton open-hearth furnaces. Met. i gornorud. prom. no.3:32-34 My-Je '63. (MIRA 17:1)

SHAPOVALOV, F. F.

MATHEMATICS - STUDY AND TEACHING

Conference for exchange of experience by Briansk Province mathematics teachers. Mat. v shkole no. 4 (1952).

Monthly List of Russian Accessions, Library of Congress, September 1952. UNCLASSIFIED.

L 11118-63 EWT(1)/BDS AFFTC/ASD

ACCESSION NR: AP3003699 S/0048/63/027/007/0932/0936

AUTHOR: Berkovskiy, A. G.; Gusel'nikov, V. G.; Shapovalov, F. Ye. 53

TITLE: Photomultipliers with toroidal emitters [XIII yezhegodnoye soveshchaniye po yadernoy spektroskopii (XIII Annual Conference on Nuclear Spectroscopy), held in Kiev from 25 January to 2 February 1963]

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v. 27, no. 7, 1963, 932-936

TOPIC TAGS: multiplier, secondary emission, toroidal emitter

ABSTRACT: A series of photomultipliers utilizing a toroidal multiplying system with 14 amplification stages has been developed. The multiplying system contains no accelerating grids, which results (at a stage voltage of 250 v) in a maximum secondary-electron transit-time spread of 0.95 nanosec from external to internal emitter and 0.81 nanosec from internal to external. Photomultipliers with three sizes of cathode, 50, 100, and 150 mm in diameter, were constructed; the cathodes were made of an Sb-Cs alloy and the emitters of an Al-Mg-Si alloy. Experiments showed that the plate sensitivity of the instruments with 50-mm cathodes is greater than that of the other two types; the gain of the former is approximately 10^9, while that of the latter is approximately 10^8. Toroidal

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L 11118-63

ACCESSION NR: AP3003699 0

multiplying systems are said to have the following advantages over other systems: 1) larger area of the input aperture of the diaphragm, which facilitates photoelectron collection on the first emitter; 2) larger working emitter surface than other types of devices of the same size; 3) absence of sharp edges, which at higher power-supply voltages lead to the occurrence of an autoelectronic component of the dark current; and 4) positioning of all the bracketing insulators, which are one possible cause of unstable photomultiplier operation, on the outside of the transit space. Orig. art. has: 5 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 02Aug63 ENCL: 00

SUB CODE: GE,SD NO REF SOV: 003 OTHER: 001

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